

What is claimed is:

Sub 1
1. A method of treating a subject having a disorder characterized by unwanted cell proliferation, the method comprises increasing TSP-2 activity.

2. The method of claim 1, wherein TSP-2 activity is increased by administering an agent which increases TSP-2 activity.

3. The method of claim 2, wherein the agent is a TSP-2 polypeptide, or a biologically active fragment or analog thereof.

4. The method of claim 3, wherein the fragment is a synthetic TSP-2 derived peptide.

5. The method of claim 3, wherein the analog is a retro-inverso peptide of TSP-2.

6. The method of claim 4, wherein the peptide comprises the sequence of SEQ ID NO: 1.

Sub 2
7. The method of claim 6, wherein the peptide has the sequence of SEQ ID NO: 1.

8. The method of claim 2, wherein the agent is a nucleic acid encoding a TSP-2 polypeptide, or a biologically active fragment or analog thereof.

9. The method of claim 2, wherein the agent is an agonist of TSP-2.

10. The method of claim 1, wherein TSP-2 activity is increased by increasing endogenous TSP-2 activity.

11. ~~The method of claim 10, wherein TSP-2 activity is increased by one or more of:~~
increasing the level of expression of the gene, increasing the stability of the TSP-2
mRNA, increasing the translation of TSP-2 mRNA, and increasing the stability of the
TSP-2 protein.

12. ~~The method of claim 11, wherein transcription of the TSP-2 gene is increased by~~
~~altering the regulatory sequences of the endogenous TSP-2 gene.~~

13. The method of claim 1, wherein the disorder is characterized by pre-cancerous,
cancerous or neoplastic cells, or the presence of a tumour.

14. The method of claim 13, wherein the disorder affects an epithelial tissue.

15. The method of claim 1, wherein the disorder is characterized by unwanted skin
cell proliferation.

16. The method of claim 15, wherein the disorder is a squamous cell carcinoma of the
skin or a malignant melanoma.

17. The method of claim 1, wherein the disorder is characterized by unwanted
prostate cell proliferation.

18. The method of claim 1, wherein the disorder is characterized by benign unwanted
skin proliferation in the skin.

19. The method of claim 18, wherein the disorder is psoriasis or papilloma formation.

20. The method of claim 1, further comprising increasing TSP-1 activity.

21. The method of claim 1 or claim 20, further comprising inhibiting VEGF activity.

22. The method of claim 1, further comprising administering a chemotherapeutic agent.

23. The method of claim 22, wherein the chemotherapeutic agent is taxol or carboplatin.

24. The method of claim 1, wherein a cell that has been genetically modified to express a TSP-2 protein, or a fragment or an analog thereof is introduced into the subject.

25. The method of claim 24, wherein the cell is selected from the group consisting of a fibroblast, a keratinocyte, an epithelial cell, an endothelial cell, a glial cell, a neural cell, a lymphocyte, a bone marrow cell, and a muscle cell.

26. A method of treating a subject having an unwanted skin condition comprising modulating TSP-2 activity to thereby treat the disorder.

27. The method of claim 26, wherein the unwanted skin condition is a condition that affects the structure of the skin.

28. The method of claim 27, wherein the condition can be caused by a genetic factor.

29. The method of claim 28, wherein the genetic factor is epidermolysis.

30. The method of claim 29, wherein the condition is caused by an environmental factor.

31. The method of claim 30, wherein the environmental factor is ultraviolet radiation.

32. The method of claim 26, wherein TSP-2 activity is increased.

33. The method of claim 32, wherein TSP-2 activity is increased by administering an agent which increases a TSP-2 activity.
34. The method of claim 33, wherein the agent which increases a TSP-2 activity is selected from the group consisting of: a TSP-2 polypeptide or a biologically active fragment or analog thereof, a nucleic acid encoding a TSP-2 polypeptide or a biologically active fragment or analog thereof, and an agonist of TSP-2.
35. The method of claim 32, wherein the level of TSP-2 can be increased by increasing the endogenous TSP-2 activity.
36. The method of claim 26, wherein TSP-2 activity is decreased.
37. The method of claim 36, wherein TSP-2 activity is decreased by administering an agent which decreases TSP-2 activity.
38. The method of claim 37, wherein the agent which decreases a TSP-2 activity is selected from the group consisting of: a TSP-2 nucleic acid molecule that can bind to cellular TSP-2 mRNA and inhibit expression of the protein, an antibody that specifically binds to a TSP-2 protein, a dominant negative TSP-2 protein or fragment thereof and an agent which decreases TSP-2 nucleic acid expression.
39. The method of claim 36, wherein the level of TSP-2 can be decreased by decreasing the endogenous TSP-2 activity.
40. The method of claim 32, wherein the unwanted condition is aged skin.
41. The method of claim 32, wherein the unwanted condition is psoriasis.
42. The method of claim 32, wherein the unwanted condition is rosecea dermatosis.

43. The method of claim 32, wherein the unwanted condition is skin damage caused by photoradiation.

44. A method of evaluating if a subject is at risk for unwanted proliferation, comprising: evaluating the presence of a TSP-2 nucleic acid or protein, wherein a decrease in TSP-2 activity is indicative of the subject being at risk.

45. The method of claim 44, wherein the subject is evaluated for a risk of squamous cell carcinoma.

46. The method of claim 44, wherein the subject is evaluated for a risk of melanoma.

47. The method of claim 44, wherein the subject is evaluated for a risk of prostate cancer.

48. The method of claim 44, wherein the presence of TSP-2 is evaluated by contacting a biological sample with a compound or an agent capable of detecting TSP-2 protein or TSP-2 nucleic acid, such that the presence of TSP-2 nucleic acid or protein is detected in the biological sample.

49. The method of claim 48, wherein the compound or agent is a nucleic acid probe capable of hybridizing to TSP-2 mRNA or an antibody capable of binding to TSP-2 protein.

50. A method of identifying a compound which can be used to treat a disorder characterized by unwanted proliferation, comprising:
providing a cell, a tissue, or a subject;
treating the cell or the tissue, or the subject with a candidate compound; and
determining the level of TSP-2 nucleic acid or TSP-2 protein, wherein the ability of the compound to increase TSP-2 nucleic acid or TSP-2 protein is indicative of a compound which can be used to treat the disorder.

51. The method of claim 50, further comprising evaluating a control cell, tissue or subject is not treated with the candidate compound.

52. The method of claim 50, wherein the compound is a fragment or analog of TSP-2.